

**ABSTRACT**

Optical imaging systems and methods use polarized illumination and a coordinated pupil filter to achieve high contrast. An imaging system includes a light source to generate light for illuminating an object having features aligned in a first direction and

5    features aligned in a second direction, a lens for imaging the illuminated object onto a surface, a spatial selection device, such as a pupil filter, selective in a first mode of light corresponding to features of the illuminated object aligned in the first direction and selective in a second mode of light corresponding to features of the illuminated object aligned in a second direction, a polarization device optically coupled to the spatial

10   selection device and selective in the first mode of s-polarized light corresponding to the first direction and selective in the second mode of s-polarized light corresponding to the second direction, and a controller for selecting operation in the first mode or in the second mode.